

# First record of *Megalechis picta* (Müller and Troschel, 1849) (Siluriformes: Callichthyidae) in the upper Rio Paraná basin, Brazil

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**ABSTRACT:** Herein we report the first record of *Megalechis picta* in the upper Rio Paraná basin based in a single specimen captured in the Corumbá IV Reservoir, Rio Paranaíba drainage, State of Goiás, Brazil. Additional discussion about geographic distribution of congeners is also provided.

Callichthyidae is composed by catfishes with two longitudinal series of lateral plates and harbors about 200 valid species, being currently allocated in two subfamilies, Callichthyinae and Corydoradinae (Reis 2003; Eschmeyer 2013). Callichthyinae comprehends five valid genus, *Callichthys* Scopoli, 1777, *Dianema* Cope, 1871, *Hoplosternum* Gill, 1858, *Lepthoplosternum* Reis, 1997 and *Megalechis* Reis, 1997 (Reis 1998; 2003) and Corydoradinae three valid genus, *Aspidoras* Ihering, 1907, *Corydoras* Lacépède, 1803 and *Scleromystax* Günther, 1864 (Britto, 2003). Reis (1997) conducted a taxonomic review of *Hoplosternum*, describing two new genera, *Lepthoplosternum* and *Megalechis*, and three new species. *Megalechis* is clearly distinguished from the other Callichthyinae by possessing the unique combination of features: first soft ray of dorsal fin unbranched (vs. branched); anal fin with an additional unbranched ray; caudal fin truncated; and a very elongated pectoral-fin spine in adult males (Reis 1997). That author allocated the former *Hoplosternum thoracatum* species group in *Megalechis*, which became composed by *M. personata* (Ranzani, 1841) and *M. thoracata* (Valenciennes, 1840).

Reis *et al.* (2005) after analyzing the holotypes of *Callichthys thoracatus* and *Callichthys longifilis*

Valenciennes, 1840, rearranged *Megalechis* species, considering *M. personata* as junior-synonym of *M. thoracata* and *M. picta* as a valid species, also providing a new diagnosis to *Megalechis* species. *Megalechis picta* is distributed over Amazon and Orinoco river basins, as well as coastal rivers of the Guianas and northern Brazil (Reis *et al.* 2005). Through the analysis of a single specimen captured in the region of Corumbá IV Reservoir, affluent of the Rio Paranaíba, State of Goiás, a first record for *M. picta* in the upper Rio Paraná basin is stated herein.

The unique specimen of *Megalechis picta* (Figure 1) was collected by Roberto Leandro da Silva (Systema Naturae Consultoria Ambiental), 12/15/2006, in the Corumbá IV Reservoir, at the Rio Corumbá, tributary to the Rio Paranaíba, geographic coordinates 16°18'48" S, 48°11'39" W, upper Rio Paraná basin, State of Goiás, Luziânia municipality, and hosted in the Coleção Ictiológica do Nupélia, NUP 8787, 1, 170.0 mm of standard length (SL), available at: <http://peixe.nupelia.uem.br>. The species identification was performed following Reis *et al.* (2005). A map with the record of *M. picta* at the upper Rio Paraná basin is provided (Figure 2). Fishes were collected with permission of the Agência Goiana de Meio Ambiente – nº 40/2006.



**FIGURE 1.** Specimen of *Megalechis picta*, NUP 8787, 170.0 mm SL, collected in Corumbá IV Reservoir.

*Megalechis picta* is native from Amazon and Orinoco river basins, as well as coastal rivers of the Guianas and northern Brazil. This is the first record of *M. picta* in the upper Rio Paraná basin. *Megalechis thoracata* can be distinguished from *M. picta* by the smaller dorsal-fin spine, generally higher number of anal-fin rays (six, rarely five vs. five, rarely four) and mainly by the color pattern of caudal fin (see Reis et al. 2005). In *M. thoracata* the base of caudal fin displays a whitish band and the remaining part is dusky or black spotted, while *M. picta* presents caudal-fin base blackened, with a conspicuous dark bar in the middle and the distal border also blackened, the regions between the blackened bands are clearly whitish yellow.

Langeani et al. (2007) provided a list of species for the upper Rio Paraná basin and mentioned the non-native occurrence of *M. personata* (= *M. thoracata*, see Reis et al. 2005 for more details). Other studies also listed *M. personata* in the upper Rio Paraná basin (e.g. Castro et al. 2004; Perez-Júnior and Garavello 2007; Apone et al. 2008; Oliveira et al. 2009). Castro et al. (2004) and Apone et al. (2008) provided photographs of the species making possible to confirm the identification of the *Megalechis* captured in those studies that are certainly *M. thoracata*. Langeani et al. (2007) attributed the occurrence of *M. personata* (= *M. thoracata*) in the upper Rio Paraná to the building of the Itaipu dam, which submerged the Sete Quedas Falls and provided a mix between the ichthyofaunas from upper and middle Rio Paraná basins. Nevertheless, that species does not occur naturally in the middle or lower Rio Paraná basins, where it was possibly introduced due being used as live bait.

Nupélia's fish collection received several specimens collected by Furnas staff in the 1970's decade in the Rio Corumbá and none *Megalechis* specimen was found. Additionally, during five years (1996-2000) Nupélia staff performed fish samples in the Corumbá Reservoir area

and none specimen of *Megalechis* was captured. The list of collected species was published by Pavanelli et al. (2007) and the vouchers are housed in the Nupélia's fish collection. The Rio Paranaíba basin has several endemic species (see Pavanelli and Britski 1999; Silveira et al. 2008), however, there are recent mentions on the occurrence of some introduced species, especially those with importance in fishing or aquaculture (i.e. *Cichla* spp. and *Leporinus macrocephalus* Garavello and Britski, 1988), live-bait (*Gymnotus* spp.) or aquarium specimens, such as *Xiphophorus hellerii* Heckel, 1848 and *Poecilia reticulata* Peters, 1859, which are typically captured in abundance. Zawadzki et al. (2008) also reported some sporadic non-native species in the Rio Meia Ponte, affluent to the Rio Paranaíba as well, such as: *Hypostomus faveolus* Zawadzki, Birindelli and Lima, 2008, from Xingu and Tocantins rivers basins; *Pterygoplichthys joselimaianus* (Weber, 1991) from the Rio Tocantins basin; and *Hyphessobrycon moniliger* Moreira, Lima and Costa, 2002 from the Tocantins and upper Tapajós rivers basins. The occurrence of *M. picta* in the Rio Corumbá can be attributed to its use as live bait for angling or its release in the river by a fishkeeper. Recently, Ferreira et al. (2011) registered *M. picta* in a tributary to the Rio Araguaia, relatively near to the region of the upper Rio Paraná tributaries in Goiás State, being possible that the occurrence of this species is due to transpositions between those basins. Currently, it is merely speculative to say whether the species was able to establish itself in the basin or what could be the impact on the wildlife of the Rio Corumbá. Despite of that, this note intends rather to call attention that species introductions and transpositions between basins, deliberated or not, which have been more and more common, in most cases may have a damaging effect on native wildlife. We strongly recommend that this kind of action be severely discouraged.

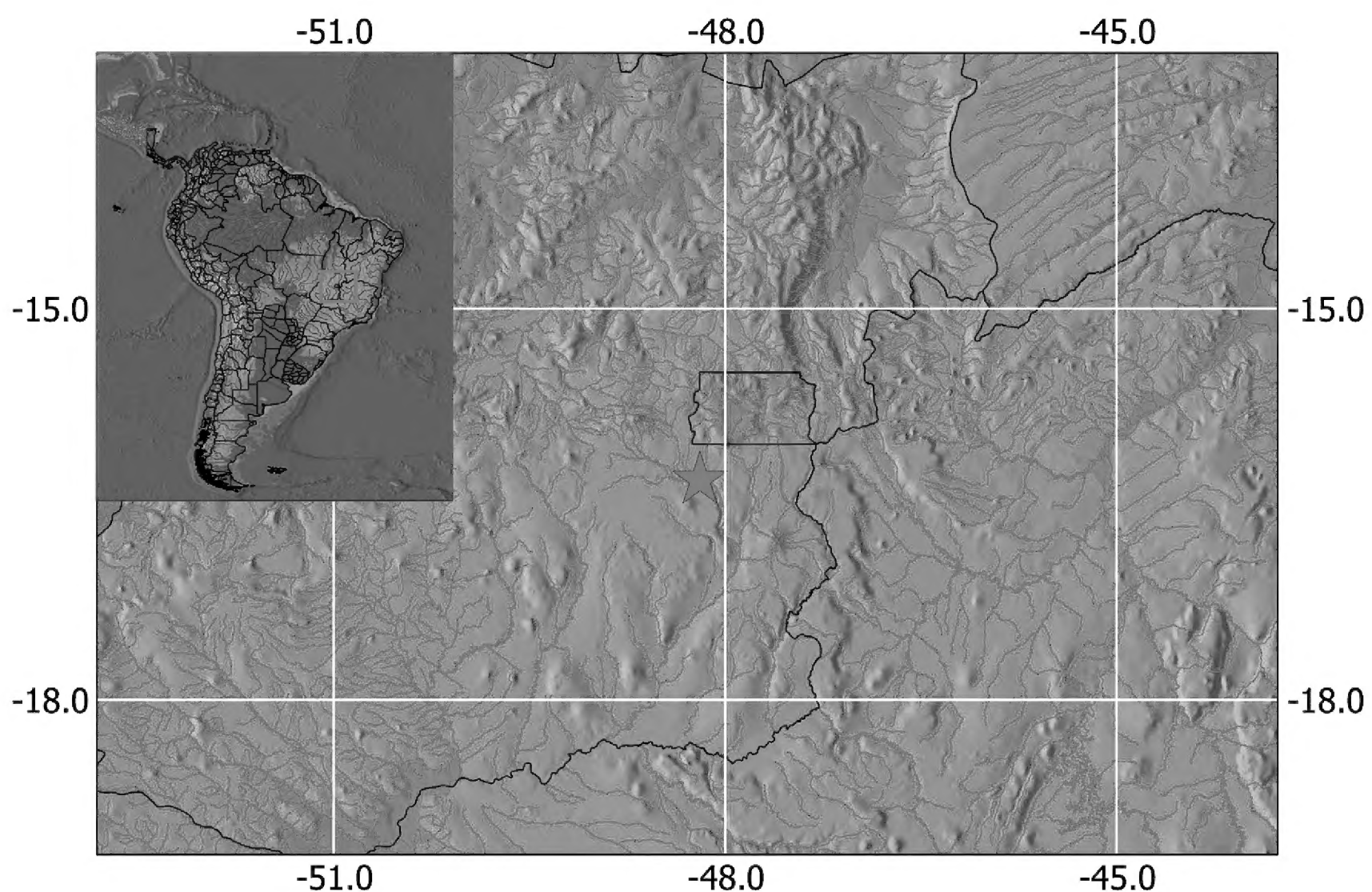


FIGURE 2. Map showing the sample site of *Megalechis picta* (NUP 8787), the Corumbá IV Reservoir, upper Rio Paraná basin (red star).



**ACKNOWLEDGMENTS:** The authors are grateful to the Nupélia for providing logistical support. To Roberto Leandro da Silva for the donation of *Megalechis picta* specimen. The Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) provided fellowships to LFCT. The Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) and Fundação Araucária provided grants to CSP and WJG, respectively.

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RECEIVED: April 2013

ACCEPTED: September 2013

PUBLISHED ONLINE: October 2013

EDITORIAL RESPONSIBILITY: Tiago Pinto Carvalho